

Fact Sheet



For Proposed Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on October 3, 2011.

Permit Number: **R30-03900007-2011**
Application Received: **September 9, 2011**
Plant Identification Number: **03-54-03900007**
Permittee: **Bayer CropScience, LP**
(Larvin)
(Group 6 of 8)
Facility Name: **Institute Site**
Mailing Address: **P.O. Box 1005**
Institute, WV 25112

Permit Action Number: MM01 Revised: Proposed

Physical Location:	Institute, Kanawha County, West Virginia
UTM Coordinates:	432.0 km Easting • 4,248.3 km Northing • Zone 17
Directions:	The facility is located west of Institute, WV, adjacent to State Route 25 and West Virginia State College.

Facility Description

Bayer CropScience, an agricultural chemical based company, operates a multi-product, multi-process chemical plant. The Plant has five basic manufacturing units along with several other production facilities primarily responsible for producing raw materials used in the manufacture of agricultural chemicals. The principal products produced at the Institute site are SEVIN brand carbaryl, TEMIK brand aldicarb, LARVIN brand thiodicarb, RHODIMET AT-88, oxamyl, BPMC, Carbofuran, and Carbosulfan. SIC Codes: 2879; 2869

Group Description

The facility was divided into 8 Title V Permits. They were broken down as follows:
Group 1 – Powerhouses, Maintenance, Wastewater Treatment Unit, Laboratories

Group 2 – Rhodimet
 Group 3 – Carbofuran Unit, Carbosulfan Unit
 Group 4 – Aldicarb, BPMC, Oxamyl
 Group 5 – Polymers (Note this process was closed in 2004 and no Title V Group 5 Permit was issued)
 Group 6 – Larvin Unit
 Group 7 – Naphthol Unit, PANA, Jet
 Group 8 – Phosgene, MIC, SEVIN

Emissions Summary

Regulated Pollutant	Permitted emissions R13-0641		Permitted emissions R13-0641A and B		Change in permitted emissions	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM₁₀	0.01	0.01	2.33	2.14	2.32	2.13
PM_{2.5}	n/a	n/a	0.07	0.29	0.07	0.29
CO	n/a	n/a	2.78	9.37	2.78	9.37
NO_x	n/a	n/a	15.35	48.28	15.35	48.28
SO_x	104	3.12	58.59	37.40	-45.41	34.28
Total VOC	42.6	45.3	19.53	17.30	-23.07	-28.00
Total HAPs	39.79	44.1	19.97	16.26	-19.82	-27.84

Title V Program Applicability Basis

This facility still has the potential to emit over 100 TPY of criteria pollutants and over 25 TPY of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, and over 25 tons per year of aggregate HAPs, Bayer CropScience's Institute Site is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR7	Particulate Matter emissions
	45CSR10	Sulfur Oxide emissions
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for construction, modification, relocation, etc.

	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Hazardous Air Pollutants
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 MMM	Pesticide Active Ingredient (PAI) MACT
State Only:	45CSR4	No objectionable odors.
	45CSR21 (Section 40)	Volatile Organic Compound emissions
	45CSR27	Toxic Air Pollutants

*Other groups at this facility may be subject to additional applicable state and federal rules.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-0641B	6/21/2012	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

Changes made to the Title V Permit as part of this minor modification are summarized below:

1. The Methomyl and Oxime processes in this Title V Group Permit have been shut down. As a result, references to these processes and some conditions have been removed from the Permit. The equipment table in this Permit has been updated to remove the associated emission units from service.
2. R13-0641 was revised to R13-0641A on April 13, 2012. Several of the existing Title V Conditions were incorporated into the modified R13 Permit. The corresponding Conditions have been cited in the footnote of several of the Title V Conditions. On June 21, 2012, R13-0641A was updated to R13-0641B. The only change was a correction of the annual VOC emission rate for emission point 332C in Table 4.1.1 from 0.18 tpy to 2.23 tpy. This is reflected in Condition 4.1.1.
3. Section 1.2 of the Permit has been revised to update the most recent version of the R13 Permit.

4. New Condition 4.1.1 provides a table that incorporates the particulate baghouse limits previously listed in Condition 4.1.6, hydrocarbon emissions from the Scrubber A330 previously listed in Condition 4.1.7.
5. Previous Conditions 4.1.12, 4.1.13, and 4.1.14 have been taken out and replaced with Condition 4.1.12 which consolidates these requirements.
6. Current Condition 4.1.6 has been revised to specify a liquor flow rate for Scrubber A330 when the flow valves fully open. Scrubber C337 has been replaced by PTO/Scrubber [B332/C332] and the liquor flow rate for that unit has been removed.
7. PTO/Scrubber [B332/C332] has been added to the process, and the pilot light, temperature, liquor flow rate, and initial compliance test requirements have been added as Conditions 4.1.8 and 4.1.9.
8. An annual throughput limit for storage tanks T-37 and T-38 has been added as Condition 4.1.10.
9. Appendix B – “VOC Fugitive Emissions Control Program” was in place prior to the implementation of the PAI MACT requirements for VOC fugitive emissions. The requirements of section 4.1.18 have ultimately replaced the VOC Fugitive Emission Control Program. The current LDAR program has been in effect since the initiation of the PAI MACT compliance plan in 2006. Therefore, original Condition 4.2.6 and Appendix B have been removed from the Permit.
10. Appendix C – “Sulfur Dioxide Emission Control Program” was agreed upon during the original R13-0641 permitting process specifically to monitor the Sulfur concentration of the liquid residues generated within the “Pesticide B” (Methomyl) unit and combusted at the No. 1 Steam Plant. The Methomyl unit was shut down in 2008 and the residue combustion activities at the No. 1 Steam Plant have ceased operation in June, 2012. With these operational changes, Conditions 4.1.8, 4.2.7, and Appendix C are no longer applicable to Title V permit.
11. Condition 4.1.11 has been added to ensure compliance with the NO_x emission limit in Table 4.1.1 by limiting the gas flow rate. Condition 4.2.6 has been added to show continuous monitoring of the flow rate of the vent gas to show compliance with Condition 4.1.11. Condition 4.4.11 requires monitoring records to be kept of the monitoring.
12. Condition 4.1.13 has been added to limit hydrochloric acid emissions from the PTO/Scrubber [B332/C332]
13. Condition 4.1.14 has been added to limit the sulfur dioxide concentration to not exceed 2,000 part per million by volume.
14. Condition 4.1.15 has been added to require the Larvin unit to follow the Leak Detection and Repair monitoring requirements of 40CFR63, Subpart H. Condition 4.4.14 has been added and requires the facility to maintain LDAR monitoring records.
15. Condition 4.1.16 has been added to address any Toxic Air Pollutants that are discovered.
16. Condition 4.2.2 has been added to continuously monitor the pilot light flame of the back-up process flare [B330 (7c)], monitor the hours the back-up process flare is used as a control device, and to monitor the opacity. These requirements will show compliance with Conditions 4.1.4, 4.1.7, and 4.2.8.
17. Condition 4.2.3 has been added to continuously monitor the pilot light flame of the back-up process flare [B330 (7c(a))], monitor the hours the back-up process flare is used as a control device, and to

- monitor the opacity. These requirements will show compliance with Conditions 4.1.5, 4.1.7, and 4.2.8.
18. Condition 4.2.5 has been added to show compliance with Condition 4.1.8. It requires continuous monitoring of the pilot light flame of the PTO/Scrubber [B332/C332], the temperature of the gases exiting the combustion chamber, monitoring the opacity to show compliance with Condition 4.2.8, and monitoring the liquor flow rate.
 19. Condition 4.2.6 has been added to show compliance with Condition 4.1.11 by providing continuous monitoring of the total flow rate of the vent gas.
 20. Condition 4.2.7 has been added to show compliance with the throughput limits of Condition 4.1.10 by monitoring the throughput of material through Tanks T37 and T38.
 21. Conditions 4.3.2 through 4.3.4 have been added to provide testing requirements for the PTO/Scrubber [B332/C332] that are required under 40CFR63, Subpart MMM.
 22. Condition 4.4.1 has been revised to also require monthly and annual production records of Larvin on a 12-month rolling basis.
 23. Condition 4.4.2 has been revised to also require records of vent gas hours that the back-up process flare [B330(7c)] is used.
 24. Condition 4.4.8 has been added to show compliance with Condition 4.2.1. The facility will keep records of the circulation flow rate of the scrubber liquor and caustic solution concentration for the fugitive air scrubber [A330].
 25. Condition 4.4.9 has been added to show compliance with Condition 4.2.4. The facility will keep records of material balances around baghouses (3c[A331] and 5c[A332] as well as monthly pressure drop records across the baghouses.
 26. Condition 4.4.10 has been added to show compliance with Condition 4.2.5. The facility will keep records of when the PTO/Scrubber [B332/C332] pilot flame is absent, natural gas usage, exit gas temperature, and liquor flow rate.
 27. Condition 4.4.11 has been added to show compliance with Condition 4.2.6. The facility will maintain continuous monitoring records of the process vent gas flow rate before being routed to PTO/Scrubber [B332/C332].
 28. Condition 4.4.12 has been added to show compliance with Condition 4.2.7. The facility will keep records of the monthly and annual throughput for Tanks T-37 and T-38.
 29. Condition 4.4.13 has been added to show compliance with Condition 4.1.12. The facility will keep records of visible emission checks.
 30. Condition 4.4.14 has been added to show compliance with Condition 4.1.15. The facility will keep LDAR monitoring records.
 31. Condition 4.1.20 has been removed. All of the units except for the Fugitive Air Scrubber (A330) have been removed from service. The Scrubber had emission limits only from the Methomyl Process Area which is no longer in service.

32. Condition 4.1.21 has been removed. All chloroform emissions were specifically from the Methomyl Process which is no longer in service.
33. Conditions 4.1.8 and 4.1.11, as well as the hydrocarbon emissions for the Flare B330(7c) have been removed from the permit. The flare is limited to 1,200 hours per year and there were no emission limitations given in the R13-0641B Permit.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

1. 40 C.F.R. Part 64 - Compliance Assurance Monitoring (CAM)

Group 6 is not subject for the following reasons:

40CFR§64.2(a)(3) – This Group does not have any pollutant-specific emission units with potential, pre-control device emissions equal to or greater than 100 percent of the amount, in tons per year, of any pollutant that would require the unit to be classified as a major source.

2. Greenhouse Gas Tailoring Rule

This modification did not trigger a PSD permit. As such, there are no applicable GHG permitting requirements.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: N/A

Ending Date: N/A

All written comments should be addressed to the following individual and office:

Mike Egnor
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Mike Egnor
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Division of Air Quality
601 57th Street SE
Charleston, WV 25304
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Response to Comments (Statement of Basis)

Not applicable.